Mihaly Bencze, "Florentin Smarandache celebrates 70 years of life,"
Octogon Mathematical Magazine, Vol. 32, No. 2, pp. 1069-1087, October 2024.

MIHALY BENCZE

Florentin Smarandache celebrates 70 years of life

Scientist, writer, and artist. Wrote in four languages: English, Romanian, French, and Spanish. He did post-doctoral researches at Okayama University of Science (Japan) (2013-2014); at Guangdong University of Technology (Guangzhou, China), 19 May - 14 August 2012; at ENSIETA (National Superior School of Engineers and Study of Armament), Brest, France, 15 May - 22 July 2010; and for two months, June-July 2009, at Air Force Research Laboratory in Rome, NY, USA (under State University of New York Institute of Technology).

Graduated from the Department of Mathematics and Computer Science at the University of Craiova in 1979 first of his class graduates, earned a Ph. D. in Mathematics from the State University Moldova at Kishinev in 1997, and continued postdoctoral studies at various American Universities and Research Institutions, such as University of Texas at Austin, University of Phoenix, Arizona State University, New Mexico State University at Las Cruces, Los Alamos National Laboratory etc. after emigration.

Military artillery service (1974-1975, Medgidia, Romania; honorably discharged as second lieutenant in reserve).

In U.S. he worked as a software engineer for Honeywell (1990-1995), adjunct professor for Pima College (1995-1997), in 1997 Assistant Professor at the University of New Mexico, Gallup Campus, promoted to Associate Professor of Mathematics in 2003, Full Professor in 2008, and Professor Emeritus since 2022. Between 2007-2009 he was the Chair of Math & Sciences Department.

In mathematics he introduced the degree of negation of an axiom or theorem in geometry (see the **Smarandache** geometries which can be partially Euclidean and partially non-Euclidean, 1969, **https://fs.unm.edu/Geometries.htm**), the multi-structure (see the **Smarandache** n-structures, where a weak structure contains an island of a stronger structure, **https://fs.unm.edu/Algebra.htm**), and multi-space (a combination of heterogeneous spaces) [**https://fs.unm.edu/Multispace.htm**].

He created and studied in number theory many:
sequences
(**https://mathworld.wolfram.com/SmarandacheSequences.html**, **https://mathworld.wolfram.com/ConsecutiveNumberSequences.html**),
functions
(**https://mathworld.wolfram.com/SmarandacheFunction.html**,
https://mathworld.wolfram.com/SmarandacheCeilFunction.html,
https://mathworld.wolfram.com/Smarandache-KurepaFunction.html,
https://mathworld.wolfram.com/Smarandache-WagstaffFunction.html,
https://mathworld.wolfram.com/SmarandacheNear-to-PrimorialFunction.html,
https://mathworld.wolfram.com/PseudosmarandacheFunction.html),
numbers
(**https://mathworld.wolfram.com/SmarandacheNumber.html**,
https://mathworld.wolfram.com/Smarandache-WellinNumber.html),
prime numbers

(**https://mathworld.wolfram.com/SmarandachePrime.html**,
https://mathworld.wolfram.com/Smarandache-WellinPrime.html),
and *constants*
(**https://mathworld.wolfram.com/SmarandacheConstants.html**).

In 2020 he improved and extended the Garfield Impact Factor to a Total Impact Factor of a Journal [**https://fs.unm.edu/ScArt/ImpactFactor-Improved.pdf**,
https://arxiv.org/ftp/arxiv/papers/2105/2105.14186.pdf].

He generalized [1995] the fuzzy, intuitive, **paraconsistent**, multi-**valent**, **dialetheist** logics to the '**neutrosophic** logic' (also in the Denis Howe's Dictionary of Computing, England) and, similarly, he generalized the fuzzy set to the '**neutrosophic** set' (and its derivatives: '**paraconsistent** set', 'intuitionistic set', '**dialethist** set', '**paradoxist** set', 'tautological set') [**https://fs.unm.edu/eBook-Neutrosophics6.pdf**].

He coined the words "**neutrosophy**" [(French *neutre* < Latin *neuter*, neutral, and Greek *sophia*, skill/wisdom) means knowledge of neutral thought] and its derivatives: **neutrosophic, neutrosophication, neutrosophicator, deneutrosophication, deneutrosophicator**, etc.

In 2003 together with W. B. Vasantha Kandasamy he introduced the Neutrosophic Algebraic Structures, based on sets of Neutrosophic Numbers [i.e. numbers of the form a+bI, where a, b are real or complex numbers, and I = Indeterminacy, with I^n = I for n positive non-null integer, 0I = I, I/I = undefined, and nI+mI = (n+m)I].

In 2006 he introduced the degree of dependence/independence between the neutrosophic components T, I, F.

In 2007 he extended the neutrosophic set *to Neutrosophic Overset (when some neutrosophic component is > 1), and to Neutrosophic Underset (when some neutrosophic component is < 0), and to Neutrosophic Offset (when some neutrosophic components are off the interval [0, 1], i.e. some*

neutrosophic component > 1 and some neutrosophic component < 0). Then, similar extensions to respectively Neutrosophic Over/Under/Off Logic, Measure, Probability, Statistics etc. **https://fs.unm.edu/NeutrosophicOversetUndersetOffset.pdf**

Then, introduced the Neutrosophic Tripolar Set and *Neutrosophic Multipolar Set, also the Neutrosophic Tripolar Graph* and *Neutrosophic Multipolar Graph.*

He then generalized the Neutrosophic Logic/Set/Probability to Refined Neutrosophic Logic/Set/Probability [2013], where T can be split into sub-components T_1, T_2, ..., T_p, and I into I_1, I_2, ..., I_r, and F into F_1, F_2, ..., F_s, where $p+r+s = n \geq 1$. Even more: T, I, and/or F (or any of their subcomponents T_j ,I_k, and/or F_l) could be countable or uncountable infinite sets:

https://fs.unm.edu/RefinedNeutrosophicSet.pdf.

And in 2023 the MultiNeutrosophic Set that is isomorphic to the Refined Neutrosophic Set (i.e. a neutrosophic set whose components T, I, F are evaluated by multiple sources, producing multi-components):
https://fs.unm.edu/NSS/MultiNeutrosophicSet.pdf.

In 2015 he refined the indeterminacy *"I"*, within the neutrosophic algebraic structures, into different types of indeterminacies (depending on the problem to solve), such as $I_1, I_2, \ldots, I_p$ with integer $p \geq 1$, and obtained the *refined neutrosophic numbers* of the form $N_p = a+b_1I_1+b_2I_2+\ldots+b_pI_p$ where $a, b_1, b_2, \ldots, b_p$ are real or complex numbers, and a is called the determinate part of N_p, while for each k *in* $\{1, 2, \ldots, p\}$ I_k is called the k-th indeterminate part of N_p.

Then consequently he extended the neutrosophic algebraic structures to Refined Neutrosophic Algebraic Structures [or Refined Neutrosophic I-Algebraic Structures] (2015), which are algebraic structures based on sets of the refined neutrosophic numbers $a+b_1I_1+b_2I_2+\ldots+b_pI_p$.

He introduced the (T, I, F)-Neutrosophic Structures [2015]. In any field of knowledge, each structure is composed from two parts: a space, and a set of axioms (or laws) acting (governing) on it. If the space, or at least one of its axioms (laws), has some indeterminacy, that structure is a *(T, I, F)*-Neutrosophic Structure. And he

extended them to the *(T, I, F)-Neutrosophic I-Algebraic Structures* [2015], i.e. algebraic structures based on neutrosophic numbers of the form *a+bI*, but also having indeterminacy related to the structure space (elements which only partially belong to the space, or elements we know nothing if they belong to the space or not) or indeterminacy related to at least an axiom (or law) acting on the structure space. Then he extended them to *Refined (T, I, F)-Neutrosophic Refined I-Algebraic Structures.*

Together with A. Salama he introduced in 2015 the neutrosophic crisp set and neutrosophic crisp topology [**https://fs.unm.edu/NeutrosophicCrispSetTheory.pdf**].

In 2014 he founded together with Mumtaz Ali the Neutrosophic Triplet and introduced the neutrosophic triplet algebraic structures [**https://fs.unm.edu/NeutrosophicTriplets.htm**].

In 2015 he introduced the Thesis-Antithesis-Neutrothesis, and Neutrosynthesis, Neutrosophic Axiomatic System, neutrosophic dynamic systems, symbolic neutrosophic logic, (t, i, f)-Neutrosophic Structures, I-Neutrosophic Structures, Refined Literal Indeterminacy, Quadruple Neutrosophic Algebraic Structures, Multiplication Law of Subindeterminacies: **[**https://fs.unm.edu/SymbolicNeutrosophicTheory.pdf**]**.

In 2016 he founded the Neutrosophic Duplets [**https://fs.unm.edu/NeutrosophicDuplets.htm**] and then the Neutrosophic Multisets [**https://fs.unm.edu/NeutrosophicMultisets.htm**].

In 2017 he introduced the Plithogeny (extension of Dialectics and Neutrosophy), and the **Plithogenic Set**, **Plithogenic Logic as generalization of MultiVariate Logic**, **Plithogenic Probability and Plithogenic Statistics as generalizations of MultiVariate Probability and Statistics** (extension of fuzzy, intuitionistic fuzzy, neutrosophic set/logic/probability/statistics) [**https://fs.unm.edu/Plithogeny.pdf**]. And in 2023 the Symbolic Plithogenic Algebraic Structures built on the set of Symbolic Plithogenic Numbers of the form $a_0 + a_1P_1 + a_2P_2 + ... + a_nP_n$ where the multiplication $P_i \cdot P_j$ is based on the prevalence order and the absorbance law **https://fs.unm.edu/NSS/SymbolicPlithogenicAlgebraic39.pdf**

Introduction of the n^{th}-Powerset of a Set and consequently of the SuperHyperStructures [**https://fs.unm.edu/SHS/** and **https://fs.unm.edu/NSS/SuperHyperStructure.pdf**] built on it such as: SuperHyperAlgebra and Neutrosophic SuperHyperAlgebra (2016) [**https://fs.unm.edu/SuperHyperAlgebra.pdf**], SuperHyperGraph and Neutrosophic SuperHyperGraph [**https://fs.unm.edu/NSS/n-SuperHyperGraph.pdf**], and SuperHyperFunction and SuperHyperTopology [**https://fs.unm.edu/NSS/SuperHyperFunction37.pdf**], SuperHyperTopology [**https://fs.unm.edu/TT/**].

Together with A. R. Vatuiu he enunciated the Law that *it is easier to break from inside than from outside a neutrosophic dynamic system* in 2017 [**https://fs.unm.edu/EasierMaiUsor.pdf**], and the theory of *spiral neutrosophic human evolution* in 2019 [**https://fs.unm.edu/SpiralNeutrosophicEvolution.pdf**].

Then he extended in 2018 the Soft Set to Hypersoft Set [**https://fs.unm.edu/NSS/ExtensionOfSoftSetToHypersoftSet.pdf**], and further on to IndetermSoft Set & IndetermHyperSoft Set [**https://fs.unm.edu/NSS/IndetermSoftIndetermHyperSoft38.pdf**], then to TreeSoft Set [**https://fs.unm.edu/NSS/IndetermSoftSet-TreeSoftSet59.pdf** and **https://fs.unm.edu/TSS/**].

In 2019 he generalized the classical Algebraic Structures to NeutroAlgebraic Structures (or NeutroAlgebras) {whose operations and axioms are partially true, partially indeterminate, and partially false} as extensions of Partial Algebra, and to AntiAlgebraic Structures (or AntiAlgebras) {whose operations and axioms are totally false}.

And, in general, he extended any classical Structure, in no matter what field of knowledge, to a NeutroStructure and an AntiStructure: [**https://fs.unm.edu/NA/NeutroAlgebra.htm**].

And he introduced in 2020 the SuperHyperGraph, with super-vertices and hyper-edges {defined on power-set of power-set...}, and n-HyperAlgebra [**https://fs.unm.edu/NSS/n-SuperHyperGraph-n-HyperAlgebra.pdf**].

As alternatives and generalizations of the Non-Euclidean Geometries he introduced in 2021 the **NeutroGeometry & AntiGeometry**. While the Non-Euclidean Geometries resulted from the total negation of only one specific axiom (Euclid's Fifth Postulate), the AntiGeometry results from the total negation of any axiom and even of more axioms from any geometric axiomatic system (Euclid's, Hilbert's, etc.), and the NeutroAxiom results from the partial negation of one or more axioms [and no total negation of no axiom] from any geometric axiomatic system. Real Examples of NeutroGeometry and AntiGeometry: **https://fs.unm.edu/NSS/ExamplesNeutroGeometryAntiGeometry35.pdf**.

Also, he proposed an extension of the classical probability and the imprecise probability to the '**neutrosophic** probability' [1995], that he defined as a tridimensional vector whose components are real subsets of the non-standard **interval]**-0, 1+[, introduced the neutrosophic measure and neutrosophic integral [**https://fs.unm.edu/NeutrosophicMeasureIntegralProbability.pdf**],
and also extended the classical statistics to neutrosophic statistics
[**https://fs.unm.edu/NeutrosophicStatistics.pdf**].

He extended the Analytical Hierarchy Process (AHP) to **α-Discounting Method for Multi-Criteria Decision Making** (**α-D** MCDC) [**https://fs.unm.edu/alpha-DiscountingMCDM-book.pdf**].

Since 2002, together with Dr. Jean **Dezert** from Office National de **Recherches Aeronautiques** in Paris, worked in information fusion and generalized the **Dempster**-Shafer Theory and TBM to a new theory of plausible and **paradoxist** fusion (**Dezert-Smarandache** Theory): **https://fs.unm.edu/DSmT.htm** .
In 2004 he designed an algorithm for the Unification of Fusion Theories and rules (UFT) used in bioinformatics, robotics, military.

In biology he introduced in 2017 the Theory of Neutrosophic Evolution: Degrees of Evolution, Indeterminacy, and Involution

[**https://fs.unm.edu/neutrosophic-evolution-PP-49-1.3pdf**].

Extension of the AH-Isometry to n-Refined AH-Isometry (Smarandache & Abobala, 2024):

[**https://fs.unm.edu/NSS/RefinedLiteral21.pdf**].

In physics he found a series of paradoxes (see the quantum **smarandache** paradoxes), and considered the possibility of a third form of matter, called **unmatter [2004]**, which is a combination of matter and antimatter - presented at Caltech (American Physical Society Annual Meeting, 2010) and Institute of Atomic Physics (Magurele, Romania 2011) [**https://fs.unm.edu/unmatter.htm**].

Based on a 1972 manuscript, when he was a high school student in Rm. Valcea, he published in 1982 the hypothesis that 'there is no speed barrier in the universe and one can construct any speed', **(https://scienceworld.wolfram.com/physics/SmarandacheHypothesis.html**).

Upon his hypothesis he proposed an Absolute Theory of Relativity [free from: time dilation, space contraction, relativistic simultaneities and relativistic paradoxes which look alike science fiction not fact]. Then he extended his research to a more diversified Parameterized Special Theory of Relativity (1982): **https://fs.unm.edu/ParameterizedSTR.pdf** and generalized the Lorentz Contraction Factor to the Oblique-Contraction Factor for lengths moving at an oblique angle with respect to the motion direction, then he found the Angle-Distortion Equations (1983): **https://fs.unm.edu/NewRelativisticParadoxes.pdf**.

He considered that the speed of light in vacuum is variable, depending on the moving reference frame; that space and time are separated entities; also the redshift and blueshift are not entirely due to the Doppler Effect, but also to the Medium Gradient and Refraction Index (which are determined by the medium composition: i.e. its physical elements, fields, density, heterogeneity, properties, etc.); and that the space is not curved and the light near massive cosmic bodies bends not because of the gravity only as the General Theory of Relativity asserts (Gravitational Lensing), but because of the Medium Lensing.

In order to make the distinction between clock and time , he suggested a *first experiment* with different

clock types for the GPS clocks, for proving that the resulted dilation and contraction factors are different from those obtained with the cesium atomic clock; and a *second experiment* with different medium compositions for proving that different degrees of redshifts/blueshifts and different degrees of medium lensing would result.

He introduced the superluminal and instantaneous physics (domains that study the physical laws at superluminal and respectively instantaneous velocities), and the neutrosophic physics that describes collections of objects or states that are individually characterized by opposite properties, or are characterized neither by a property nor by the opposite of the property. Such objects or states are called neutrosophic entities [**https://fs.unm.edu/SuperluminalPhysics.htm**].

In philosophy he introduced in 1995 the '**neutrosophy**', as a generalization of Hegel's dialectic, which is the basement of his researches in mathematics and economics, such as '**neutrosophic** logic', '**neutrosophic** set', '**neutrosophic** probability', '**neutrosophic** statistics'. **Neutrosophy** is a new branch of philosophy that studies the origin, nature, and scope of neutralities, as well as their interactions with different ideational spectra. This theory considers every notion or idea <A> together with its opposite or negation <Anti-A> and the spectrum of "neutralities" <**Neut**-A> (i.e. notions or ideas located between the two extremes, supporting neither <A> nor <Anti-A>). The <**Neut**-A> and <Anti-A> ideas together are referred to as <Non-A>. According to this theory every idea <A> tends to be neutralized and balanced by <Anti-A> and <Non-A> ideas - as a state of **equilibrium. As a consequence, he generalized the triad thesis-antithesis-synthesis to the tetrad thesis-antithesis-neutrothesis-neutrosynthesis** [**https://fs.unm.edu/neutrosophy.htm**].

He extended the *Law of Included Middle* [<A>, <nonA>, and a third value <T> which resolves their contradiction at another level of reality] to the *Law of Included Multiple-Middle* [<A>, <antiA>, and <neutA>, where <neutA> is split into a multitude of neutralities between <A> and <antiA>, such as $<neut_1A>$, $<neut_2A>$, etc.]. The <neutA> value (i.e. neutrality or indeterminacy related to <A>) actually comprises the included middle value. Also, he extended

the *Principle of Dynamic Opposition* [opposition between <A> and <antiA>] to the *Principle of Dynamic Neutrosophic Opposition* [which means oppositions among <A>, <antiA>, and <neutA>]; [**https://fs.unm.edu/LawIncludedMultiple-Middle.pdf**]. And the *Law of Included Infinitely-Many-Middles* [**https://fs.unm.edu/NSS/LawIncludedInfinitely1.pdf**].

> Then in 2023 the MultiAlism System of Thought (an open dynamic system of many opposites, with their neutralities or indeterminacies, formed by elements from many systems): **https://fs.unm.edu/NSS/MultiAlistSystemOfThough.pdf** and the introduction of the Appurtenance Equation & Inclusion Equation **https://fs.unm.edu/NS/AppurtenanceInclusionEquations-revised.pdf**.
>
> In 2024 the Upside-Down Logics: Falsification of the Truth & Truthification of the False: **https://fs.unm.edu/Upside-DownLogics.pdf**
>
> In 2024 introduction of the Neutrosophic TwoFold Algebra: **https://fs.unm.edu/NeutrosophicTwoFoldAlgebra.pdf**

In psychology he introduced (**https://fs.unm.edu/NeutropsychicPersonality-ed3.pdf**):

Neutropsychic Personality that is a neutrosophic dynamic open psychological system of tendencies to feel, think, and act specific to each individual. Neutrosophic Refined Memory: that restructured the division of memory into: *consciousness*, *aconsciousness* (which we introduce as a blend of *consciousness* and *unconsciousness*), and *unconsciousness*. *Aconscious* was further subdivided into *preconscious, subconscious, semiconscious* = *semiunconscious, subunconscious,* and *preunconscious*. All memories have degrees of conscious (c), acounscious (a), and unconscious (u).

Refined Neutrosophic antiTrait –Trait Diagram, that each individual has a *degree of antiTrait* and a *degree of Trait* with respect to each antiTrait-Trait personality pair.
And the *Neutrosophic Temperament*.

Some contributions to sociology [**https://fs.unm.edu/sociology.htm**], and introduction to NeutroSociology [**https://fs.unm.edu/NeutroSociology.pdf**] that is the study of sociology using indeterminate data {each society has degrees of democracy, neutrality, and antidemocracy}.

Invited to lecture at University of Berkeley (2003), NASA Langley Research Center-USA (2004), NATO Advance Study Institute-Bulgaria (2005), Jadavpur University-India (2004), Institute of Theoretical and Experimental Biophysics-Russia (2005), Bloomsburg University-USA (1995), University Sekolah Tinggi Informatika & Komputer Indonesia-Malang and University Kristen Satya Wacana Salatiga-Indonesia (2006), Minufiya University (Shebin Elkom)-Egypt (2007), Air Force Institute of Technology Wright-Patterson AFB in Dayton [Ohio, USA] (2009), Universitatea din Craiova - Facultatea de Mecanica [Romania] (2009), Air Force Research Lab & Griffiss Institute [Rome, NY, USA] (2009), COGIS 2009 (Paris, France), ENSIETA (Brest, France) - 2010, Romanian Academy - Institute of Solid Mechanics and Commission of Acoustics (Bucharest - 2011), Guangdong University of Technology (Guangzhou, China) - 2012, Okayama University of Sciences (Japan) - 2013, Osaka University (Japan) - 2014, Universidad Nacional de Quilmes (Argentina) - 2014, Universidad Complutense de Madrid (Spain) - 2014, Univ. Transilvania Brasov - 2015; Vietnam National University, Le Quy Don Technical University (Hanoi) and Hanoi University, also Ho Chi Minh City University of Technology (HUTECH) and Nguyen Tat Thanh University (Ho Chi Minh City) - 2016, Universidad de Guayaquil (Ecuador) - 2016, Universidad Nacional de Colombia (Bogota - 2019), etc.

Presented papers at many Sensor or Information Fusion International Conferences {Australia - 2003, Sweden - 2004, USA (Philadelphia - 2005, Seattle - 2009, Chicago - 2011, Washington DC - 2015), Spain

(Barcelona - 2005, Salamanca - 2014), Italy - 2006, Belgium - 2007, Canada -2007, Germany (Cologne - 2008, Heidelberg - 2016), Scotland- 2010, Singapore - 2012, Turkey - 2013}.

Presented papers at IEEE GrComp International Conferences (Georgia State University at Atlanta - 2006, Kaohsiung National University in Taiwan - 2011), International Conference on Advanced Mechatronic Systems (Tokyo University of Agriculture and Technology, Japan) - 2012, IEEE World Congress on Computational Intelligence (Vancouver, Canada, 2016), Federal University of Agriculture - Abeokuta & University of Ibadan & University of Lagos (Nigeria, 2017), COMSATS Institute of Information Technology (Abbottabad, Pakistan; 2017), Jeju National University (S. Korea, 2018), Universidad Abrieda Para Adultos (Santiago de los Caballeros, Dominican Republic, 2018), King Abdulaziz University (Jeddad, Saudi Arabia, 2018), Universidad de Los Andes & Universidad Nacional de Colombia (Bogota, Colombia, 2019), Universidad Industrial de Santander (Bucaramanga, Colombia, 2019), The Global Artificial Intelligence Technology Conference (Beijing, China, 2023), Universidad Cesar Vallejo (Lima, Peru, 2024), Universidad de Havana et al. (Cuba 2024), University of Messina (Italy, 2024), University Of Guayaquil (Ecuador, 2024), Universidad Tecnica de Salvador (San Salvador, 2025)..

Participated to the training in Rabat of the Moroccan Student Team for the 1983 International Olympiad of Mathematics (Paris, France).

He received the 2011 Romanian Academy "**Traian Vuia**" Award for Technical Science (the highest in the country); *Doctor* ***Honoris Causa*** of Academia **DacoRomana** from Bucharest - 2011, and *Doctor* ***Honoris Causa*** of Beijing **Jiaotong** University (one of the highest technical universities of China) - 2011; the 2012 New Mexico - Arizona Book Award & 2011 New Mexico Book Award at the category Science & Math (for Algebraic Structures, together with Dr. W. B. **Vasantha Kandasamy**) on 18 November 2011 in Albuquerque; also, the Gold Medal from the **Telesio**-Galilei Academy of Science from England in 2010 at the University of **Pecs** - Hungary (for the **Smarandache** Hypothesis in physics, and for the **Neutrosophic** Logic), and the Outstanding Professional Service and

Scholarship from The University of New Mexico - Gallup (2009, 2005, 2001).

Very prolific, he is the author, co-author, editor, and co-editor of 180 books published by about forty publishing houses (such as university and college presses, professional scientific and literary presses, such as Springer Verlag (in print), Univ. of Kishinev Press, Pima College Press, ZayuPress, Haiku, etc.) in ten countries and in many languages, and 650 scientific articles and notes, and contributed to over 100 literary and 100 scientific journals from around the world.

He published many articles on international journals, such as: Applied Intelligence (Springer), Fuzzy Sets and Systems (Elsevier), Applied Soft Computing, Journal of Medical Systems, International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems (World Scientific), Neural Computing and Applications (Springer), Bulletin of the Research Institute of Technology (Okayama University of Science, Japan), Symmetry (MDPI), Algorithms, Measurement (Elsevier), Design Automation for Embedded Systems, International Journal of Applied Management Science, Studies in Fuzziness and Soft Computing, Advances in Intelligent Systems and Computing, *Cognitive Systems Research*, *Granular Computing*, Journal of Intelligent & Fuzzy Systems, Multiple-Valued Logic - An International Journal (now called Multiple-Valued Logic & Soft Computing) (UK & USA), Informatica (Vilnius University*)*, International Journal of Applied Management Science, Complex & Intelligent Systems, **Computers in Industry**, Asia Mathematika, Entrepreneurship and Sustainability Issues, Design Automation for Embedded Systems, Journal of Intelligent & Fuzzy Systems, Granular Computing, **Journal of Medical Systems** (Springer), Management and Informatics, Zentralblatt Für Mathematik (Germany; *reviewer*), Nieuw Archief voor Wiskunde (Holland), Advances in Fuzzy Sets and Systems, International Journal of Social Economics, Entrepreneurship and Sustainability Issues, International Journal of Applied Mathematics, International Journal of Tomography & Statistics (editor), International Journal of Applied Mathematics and Statistics (Editor-in-Chief 2005-2006),

International Journal of Pure and Applied Mathematics, Gaceta Matematica (Spain), Intelligencer (Gottingen, Germany); Humanistic Mathematics Network Journal, Bulletin of Pure and Applied Sciences, Progress in Physics (Associate editor), Infinite Energy (USA), Information & Security: An International Journal, InterStat - Statistics on the Internet (Virginia Polytechnic Institute and State University, Blacksburg, USA), American Mathematical Monthly, Mathematics Magazine, Journal of Advances in Information Fusion (JAIF), Advances and Applications in Statistics, Far East Journal of Theoretical Statistics, Notices of the American Mathematical Society, Critical Review (Society for Mathematics of Uncertainty, Creighton University - USA), New Mathematics and Natural Computing (World Scientific), Bulletin of Statistics & Economics, International Journal of Artificial Intelligence, The Icfai University Journal of Physics, Hadronic Journal (USA), Studii si Cercetari Stiintifice (University of Bacau, Romania; associate editor), International Journal of Applied Mathematics and Statistics, Roorkee, India, (editor-in-chief 2005-2006?); Journal of Computer Science and Technology, Symmetry (Basel, Switzerland), Pakistan Journal of Statistics & Operational Research, International Journal of Mathematical Combinatorics, International Journal of Geometry, Studies in Logic Grammar and Rhetoric (Belarus), Global Journal of Science Frontier Research (GJSFR) [USA, UK, India], Int. J. Advanced Mechatronic Systems (Inderscience Publishers), Applied Mechanics and Materials (Trans Tech Publications, Switzerland), etc. and on many IEEE International Conference Proceedings. Some of them can be downloaded from the LANL / Cornell University and the CERN web sites.

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During the Ceausescu's era he got in conflict with authorities. In 1986 he did the hunger strike for being refused to attend the International Congress of Mathematicians at the University of Berkeley, then published a letter in the Notices of the American Mathematical Society for the freedom of circulating of scientists, and became a dissident. As a consequence, he remained unemployed for almost two years, living from

private tutoring done to students. The Swedish Royal Academy Foreign Secretary Dr. Olof G. Tandberg contacted him by telephone from Bucharest.

Not being allowed to publish, he tried to get his manuscripts out of the country through the French School of Bucharest and tourists, but for many of them he lost track.

Escaped from Romania in September 1988 and waited almost two years in the political refugee camps of Turkey, where he did unskilled works in construction in order to survive: scavenger, house painter, whetstoner. Here he kept in touch with the French Cultural Institutes that facilitated him the access to books and rencontres with personalities.

Before leaving the country he buried some of his manuscripts in a metal box in his parents vineyard, near a peach tree, that he retrieved four years later, after the 1989 Revolution, when he returned for the first time to his native country. Other manuscripts, that he tried to mail to a translator in France, were confiscated by the secret police and never returned.

He wrote hundreds of pages of diary about his life in the Romanian dictatorship (unpublished), as a cooperative teacher in Morocco ("Professor in Africa", 1999), in the Turkish refugee camp ("Escaped... / Diary From the Refugee Camp", Vol. I, II, 1994, 1998), and in the American exile - diary which is still going on.

But he's internationally known as the literary school leader for the "**paradoxism**" movement which has many advocates in the world, that he set up in 1980, based on an excessive use of antitheses, antinomies, contradictions, paradoxes (**https://mathworld.wolfram.com/SmarandachePar adox.html**)in creation - both at the small level and the entire level of the work - making an interesting connection between mathematics, philosophy, and literature [**https://fs.unm.edu/a/paradoxism.htm**]. He introduced the '**paradoxist** distich', '**tautologic** distich', and 'dualistic distich', 'paradoxist quatrain' etc. inspired from the mathematical logic **[https://fs.unm.edu/a/literature.htm**].
Literary experiments he realized in his dramas: Country of the Animals, where there is no dialogue**!,** and An Upside-Down World, where the scenes are permuted to

give birth to one billion of billions of distinct dramas! [https://fs.unm.edu/a/theatre.htm].

He stated: "**Paradoxism** started as an anti-totalitarian protest against a closed society, where the whole culture was manipulated by a small group. Only their ideas and publications counted. We couldn't publish almost anything.

Then, I said: Let's do literature... without doing literature! Let's write... without actually writing anything. How? Simply: literature-object! 'The flight of a bird', for example, represents a "natural poem", that is not necessary to write down, being more palpable and perceptible in any language that some signs laid on the paper, which, in fact, represent an "artificial poem": deformed, resulted from a translation by the observant of the observed, and by translation one falsifies. Therefore, a mute protest we did!

Later, I based it on contradictions. Why? Because we lived in that society a double life: an official one - propagated by the political system, and another one real. In mass-media it was promulgated that 'our life is wonderful', but in reality 'our life was miserable'. The paradox flourishing! And then we took the creation in derision, in inverse sense, in a syncretism way. Thus the **paradoxism** was born. The folk jokes, at great fashion in Ceausescu's 'Epoch', as an intellectual breathing, were superb springs.

The "No" and "Anti" from my **paradoxist** manifestos had a creative character, not at all nihilistic." **Paradoxism**, following the line of Dadaism, **Lettrism**, absurd theater, is a kind of up-side down writings! In 1992 he was invited speaker in Brazil (Universidad do Blumenau, etc.).

He did many poetical experiments within his avant-garde and published **paradoxist** manifestos: "Le **Sens** du Non-**Sens**" (https://fs.unm.edu/LeSensDuNonsens.pdf, 1983), "Anti-**chambres** / **Antipoesies** / **Bizarreries**" (https://fs.unm.edu/Antichambres.pdf, 1984, 1989), "**NonPoems**" (https://fs.unm.edu/NonPoems.pdf, 1990), changing the French and respectively English linguistics clich s. While "**Paradoxist** Distiches" (https://fs.unm.edu/ParadoxistDistiches.pdf, 1998) introduces new species of poetry with fixed form. Eventually he edited fourteen International Anthologies

on **Paradoxism** (2000-2004) with texts from about 350 writers from around the world in many languages.

"**MetaHistory**" (1993) is a theatrical trilogy against the totalitarianism again, with dramas that experiment towards a total theater: "Formation of the New Man", "An Upside - Down World", "The Country of the Animals". The last drama, that pioneers no dialogue on the stage, was awarded at the International Theatrical Festival of Casablanca (1995).

He translated them into English as "A Trilogy in **pARadOXisM**: avant-garde political dramas"; and they were published by **ZayuPress** (2004). "Trickster's Famous Deeds" (**https://fs.unm.edu/Trickster.htm**, 1994, auto-translated into English 2000), theatrical trilogy for children, mixes the Romanian folk tradition with modern and SF situations.

His first novel is called "**NonNovel**" (**https://fs.unm.edu/NonNovel.pdf** , 1993) and satirizes the dictatorship in a gloomy way, by various styles and artifice within one same style.

"Faulty Writings" (1997) is a collection of short stories and prose within **paradoxism**, bringing hybrid elements from rebus and science into literature.

The world largest collection (over 100,000) of folkloric jokes (in Romanian language) **https://fs.unm.edu/a/bancuri.htm**

His experimental albums "Outer-Art" (Vol. I, 2000 & Vol. II: The Worst Possible Art in the World**!,** 2003) comprises over-paintings, non-paintings, anti-drawings, super-photos, foreseen with a manifesto: "Ultra-Modernism?" and "Anti-manifesto" [**https://fs.unm.edu/a/oUTER-aRT.htm**].

Art was for Dr. **Smarandache** a hobby. He did: - graphic arts for his published volumes of verse: "Anti-**chambres**/ Anti-**poesies**/ **Bizarreries**" (mechanical drawings), "**NonPoems**" (**paradoxist** drawings), "Dark Snow" & "Circles of light" (covers); - **paradoxist** collages for the "Anthology of the **Paradoxist** Literary Movement", by J. -M. **Levenard**, I. **Rotaru**, A. **Skemer**; - covers and illustrations of books, published by "**Dorul**" Publ. **Hse**., Aalborg, Denmark; - illustrations in the journal: "**Dorul**" (Aalborg, Denmark).

Many of his art works are held in "The Florentin **Smarandache** Papers" Special Collections at the

Arizona State University, Tempe, and Texas State University, Austin (USA), also in the National Archives of **Valcea** and Romanian Literary Museum (Romania), and in the **Musee** de Bergerac (France).

Twelve books were published that analyze his literary creation, among them: "**Paradoxism's** Aesthetics" by **Titu Popescu** (1995), and "**Paradoxism** and Postmodernism" by Ion **Soare** (2000).

He was nominated by the Academia **DacoRomana** from Bucharest for the 2011 Nobel Prize in Literature for his 75 published literary books.

Hundreds of articles, books, and reviews have been written about his activity around the world. The books can be downloaded from this Digital Library of Science**:** **https://fs.unm.edu/ScienceLibrary.htm** and from the Digital Library of Arts and Letters: **https://fs.unm.edu/LiteratureLibrary.htm**.

Literary and Scientific videos: **https://fs.unm.edu/V/Videos.htm**.

As a Globe Trekker he visited 62 countries [**https://fs.unm.edu/TravelMemories.htm**] that he wrote about in his memories. In 2015 he went to an **expedition in Antarctica** and in 2018 to the **Polar Circle (Greenland)** [see his Photo Gallery at: **https://fs.unm.edu/photo/GlobeTrekker.html**].

International Conferences: First International Conference on Smarandache Type Notions in Number Theory, August 21-24, 1997, organized by Dr. C. Dumitrescu & Dr. V. Seleacu, University of Craiova, Romania. International Conference on Smarandache Geometries, May 3-5 2003, organized by Dr. M. Khoshnevisan, Griffith University, Gold Coast Campus, Queensland, Australia. International Conference on Smarandache Algebraic Structures, December 17-19, 2004, organized by Prof. M. Mary John, Mathematics Department Chair, Loyola College, Madras, Chennai - 600 034 Tamil Nadu, India.

He has published hundreds of books in: English, Romanian, French, Spanish, and many were translated to 12 other languages, such as: Chinese, Arabic, Russian, Italian, Latin, German, Greek, Albanian, Turkish, Serbo-Croatian, Esperanto, and Portuguese.

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http://scholar.google.com/citations?user=tmrQsSwAAAAJ&hl=en
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